

Chronic persistent asthma presenting to an accident and emergency department — compliance with B.T.S. guidelines

J. R. THOMPSON & M. A. LAMBERT

Accident and Emergency Department, Charing Cross Hospital, Fulham Palace Road, London W6 8RF

SUMMARY

Forty-six patients, known to suffer from asthma, attending an inner-city accident and emergency (A&E) department, were screened for the presence of chronic symptoms and their current treatment documented. The patients were asked if they knew their optimum peak expiratory flow rate (PEFR) or if they possessed a peak flow meter. The treatment being used by each of the 26 patients with evidence of chronic persistent asthma was compared to that as advised by the British Thoracic Society (B.T.S.) and it was found that only three patients were receiving adequate treatment. Most often the treatment regimes were suboptimal due to the absence of an inhaled anti-inflammatory agent. Patient awareness of their own PEFR or possession of a peak flow meter was uniformly low in both the well-controlled patients and those with chronic persistent asthma.

INTRODUCTION

Asthma is a common condition and it continues to generate unacceptably high levels of morbidity and mortality (Burney, 1986). This is despite the advances that have been made in treatment regimes over the last 20 years.

In October 1990, the B.T.S. published a set of guidelines for the management of adults with acute severe asthma (B.T.S., 1990a) and for adults with chronic persistent asthma (B.T.S., 1990b) (Table 1).

Our aim was to study a group of patients who were suffering from chronic persistent asthma, to establish whether their treatment was appropriate for their condition as advised by the B.T.S.

METHODS

All patients attending the A&E department (over the age of 16 years) with asthma, regardless of their presenting complaints, were interviewed about their asthma by the examining doctor. Information gathering was facilitated by means of a questionnaire (Bell *et al.*, 1991). In addition to basic patient details, direct questioning was used to enquire about the presence and duration of any of the following symptoms: coughing, wheezing, chest tightness, shortness of breath, sleep disturbance, decreased exercise tolerance, time off work or school or deteriorating PEF. We also enquired whether the patient was aware of their optimal PEF or if they owned a peak-flow meter.

Table 1. Treatment pathway guidelines advised by BTS.

Severity*	Treatment
1	Short acting bronchodilator
2	Inhaled anti-inflammatory agents (a) steroids (b) sodium chromoglycate (c) nedocromil sodium
3	High doses of inhaled steroids
4	Additional bronchodilators (a) ipratropium (b) theophyllines (c) oral B ₂ agonist
5	Long-acting bronchodilator
6	Maintenance oral steroids

* Increasing severity of disease on a scale of 1–6 (6 being severe).

RESULTS

In the sample of 46 patients, 48% were men and 52% were women. The ages ranged from 16–65 years with a median age of 35 years (Fig. 1). The majority of patients was young adults. Of 46 patients, 76% were registered with a general practitioner (GP).

In the 4-week period prior to presentation, 20 patients (43%) were essentially asymptomatic most of the time and their reason for attendance at the A&E department was related to an acute deterioration in their previously controlled condition.

The remaining 26 patients (57%) described three or more ongoing symptoms over the 4-week period prior to their A&E attendance which is indicative of poorly controlled chronic persistent asthma (Fig. 2).

As one would expect, the symptoms of coughing, wheezing and chest tightness were complained of commonly. However, equally commonly noted was the significant nocturnal complaint of regular sleep disturbance (Fig. 3).

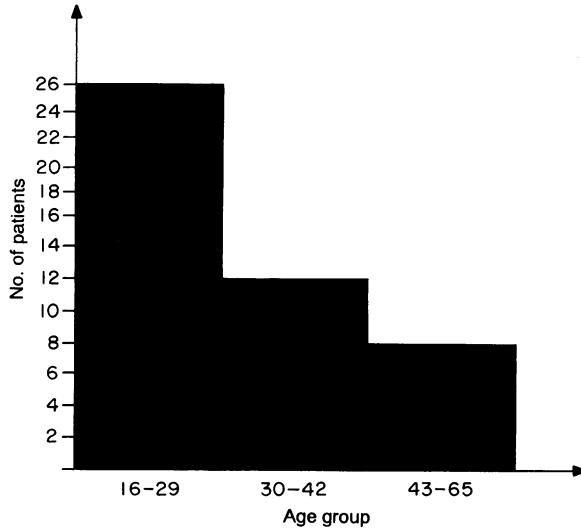


Fig. 1. Histogram showing age distribution of sample, $n = 46$, range = 16–65 (49 years), median age 31 years.

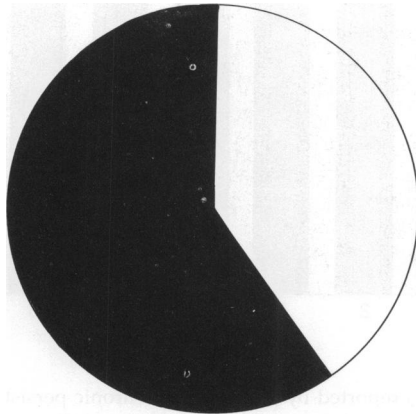


Fig. 2. Proportion of patients exhibiting three or more persistent symptoms indicative of poorly controlled asthma: □, essentially asymptomatic (20 patients); ■, chronic symptoms persisting; and $n = 46$.

On reviewing the current treatment regimes of each of these 26 patients and comparing them with those advised by the B.T.S., on the basis of symptoms in the preceding 4 weeks, it was found that only three patients were receiving appropriate treatment. For example, Patient X presented to the A&E department requesting ‘a new Ventolin inhaler’. When asked about his asthma, he complained of long term coughing, wheezing and shortness of breath with regular sleep disturbance due to these symptoms. The treatment patient X had been prescribed was two puffs of salbutamol (200 ucg) four times a day. The B.T.S. guidelines indicate that this

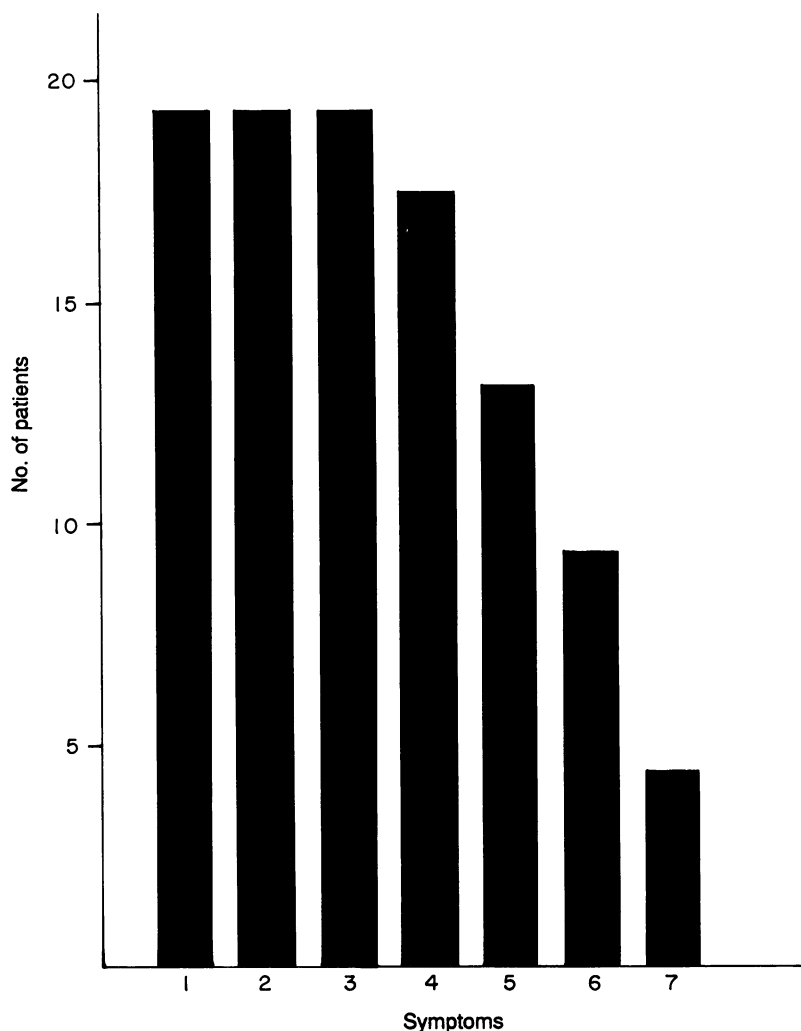


Fig. 3. Incidence of symptoms reported by patients with chronic persistent asthma during the 4-week period prior to presentation. Symptoms: 1, wheeze; 2, chest tightness; 3, sleep disturbance; 4, cough; 5, shortness of breath; 6, decreased exercise tolerance; and 7, time off work/school. $n = 26$.

patient requires the addition of regular inhaled steroids and perhaps a short course of oral steroids.

Regular sleep disturbance was a common problem amongst the patients (National Asthma Survey, 1991) with chronic persistent asthma. Nineteen of the patients experienced sleep disturbance due to the symptoms of asthma. However, only 10 patients had consulted their doctor for reassessment of their condition in the preceding 6 months.

Figure 4 shows the cumulative treatment which was lacking from 23 patients with chronic persisting asthma on suboptimal treatment. It is evident that the

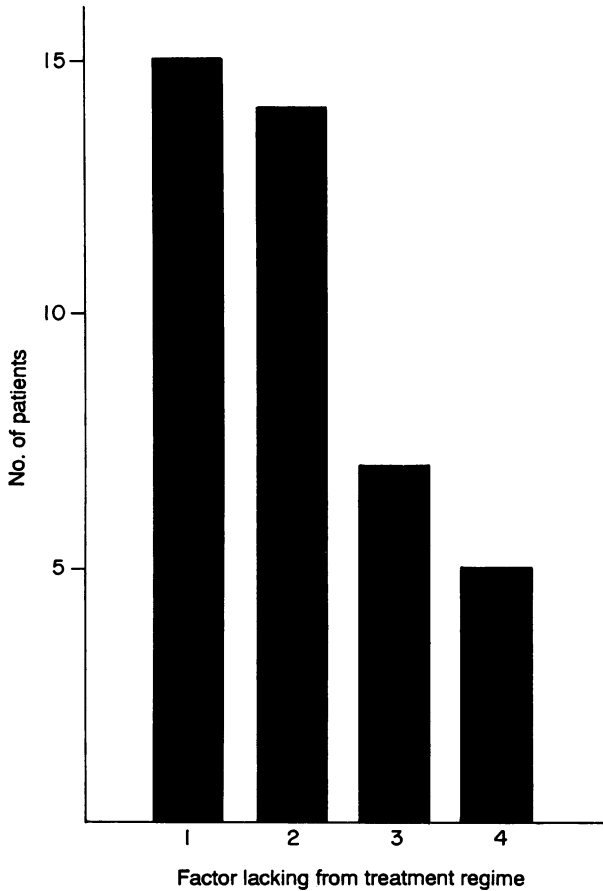


Fig. 4. Additional treatment required by patients with chronic persistent asthma as recommended by the B.T.S. Factors: 1, inhaled anti-inflammatory agent; 2, oral steroids; 3, short-acting bronchodilator; and 4, additional bronchodilator. $n = 23$.

predominant lacking factor was the inclusion of an anti-inflammatory agent in the treatment regime, either regular inhaled steroids or a short course of oral steroids.

With regard to peak-flow, Fig. 5 shows that only a few patients knew their optimum PEFR or owned a peak flow meter. This is true of those with well-controlled asthma and those with chronic persistent asthma.

DISCUSSION

The principle finding of this study was that the maintenance of treatment of the majority of patients with chronic persistent asthma who presented to this A&E department did not meet the standards set by the B.T.S. Most often it was inhaled steroids that were lacking from the treatment regime.

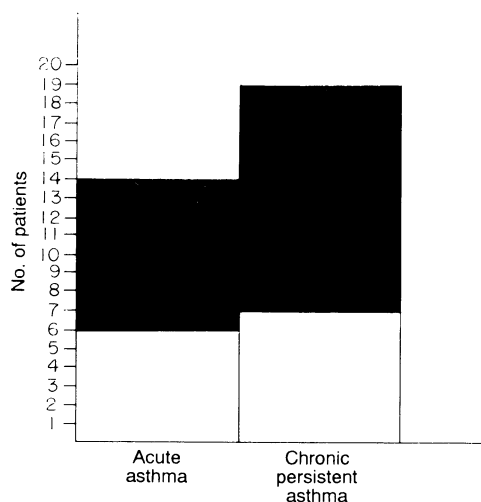


Fig. 5. Proportion of patients who knew PEFR, □, patients who did not know PEFR ■. Three patients in each group owned peak flow meters.

The B.T.S. would recommend that a patient who needs to inhale a bronchodilator more than once a day or who has night-time symptoms, requires regular inhaled anti-inflammatory drugs — inhaled steroids being the drugs of choice. In addition, short courses of oral steroids may be needed to control worsening asthma at any step. Included in the indications for oral steroids is sleep disturbance caused by asthma.

It is clear that although health care workers are aware of the significance of nocturnal symptoms in asthma (MacDonald, 1992) many of the patients in this sample who were awakened from sleep by coughing, wheezing or shortness of breath had not sought medical attention for review of their condition. The education of patients would also appear to be deficient in the area of PEFR as would practitioner's prescribing of peak-flow meters (*Drugs and Therapeutics Bulletin*, 1991). Thus the rate of self-monitoring by patients using a peak-flow meter is low.

Included in the group of patients treated inadequately were nine asthma sufferers in the sample who were not registered with a GP (24%). This proportion was found to be significant, as other studies have indicated a non-registration rate in London A&E departments in the order of 14–17% (Burnett, 1987; Dale, 1992). A higher incidence of non-registration could be explained perhaps by a higher proportion of visitors from abroad in the West London area and a disease process prevalent in young people.

Since general practice is the focal point for the management of asthma, it is our intent to study a similar cohort in the primary care environment. The aim here will be to establish whether there is a similar proportion of patients suffering from asthma with chronic symptoms on inadequate treatment or if the significant number outlined in this paper tend to avoid general practice preferring an 'inappropriate' A&E attendance.

Although it is accepted that hospitals would not and should not take on the role

of managing the majority of patients with asthma, if doctors, in an A&E setting, merely concern themselves with the management of acute exacerbations of asthma, ignoring the significant number of young patients presenting with chronic persistent asthma, rates of morbidity and mortality due to asthma will not decline.

Suboptimal treatment, which is not corrected merely leads to the patient representing with their chronic symptoms or their condition deteriorates causing them to present with an acute exacerbation.

If the issue of sub-optimal treatment of patients with chronic persistent asthma is to be addressed seriously, doctors in an A&E environment should be aware of the B.T.S. guidelines for the treatment, not only of acute severe asthma, but of chronic persistent asthma (Fig. 7) with appropriate, usually primary health care follow-up being advised.

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